LISTING OF CLAIMS

This listing of claims replaces all prior versions and listings of claims in the patent application.

Claim 1 (previously presented): An optical switch comprising:

a cladding layer and a core disposed in an interior of the cladding layer for light propagating in such a way that a width of the core is enlarged at a branching section formed at a portion along a length of the core to provide plural branched cores to enable to alter a propagation path of inputted light by selective heating of portions of the branching section and the plural branched cores, and

first and second branching section heaters at opposite sides of the branching section for heating different portions of the branching section and at least first and second branched core heaters for heating the plural branched cores, the first branching section heater and the first branched core heater being controlled separately and permitting individual heating conditions of the branching section and a selected branched core, the second branching section heater and the second branched core heater controlled separately and permitting individual heating conditions of the branching section and another selected branch core, each branched core heater having distances from the branched core and a portion of the branching section facing the branched core so as not to disturb a light-branching operation.

Claim 2 (original): An optical switch according to claim 1, wherein a set of heaters comprised by a branching section heater and a branched core heater is provided for each core of the plural branched cores so as to selectively block propagation of light through the plural branched cores.

Claim 3 (previously presented): An optical switch according to claim 2, wherein said set of heaters comprised by a branching section heater and a branched core heater is constructed of separate branching section and branched core heaters.

Claim 4 (previously presented): An optical switch according to claim 2, wherein said set of heaters comprised by a branching section heater and a branched core heater is made as a unitized heater.

Claim 5 (previously presented): An optical switch according to claim 1, wherein

a minimum distance separating a branching core heater of the first and second branched core heaters for heating one branched core of the plural branched cores and a center of a core adjacent to said one branched core is 40 μm or more; and

a minimum distance between the branching core heater and the branching section is 40 μm or more.

Claim 6 (original): An optical switch according to claim 1, wherein said core is a Y-shaped core having two branched cores.

Claim 7 (original): An optical switch according to claim 1, wherein at least one of either the core or the cladding layer is comprised by a polymeric material.

Claim 8 (previously presented): An optical switch according to claim 1, wherein at least one of said first and second branching section heaters and at least one of said first and second branched core heaters are comprised by an electrically conductive thin film provided above the cladding layer.

Claim 9 (original): An optical switch comprised substantially by combining in plural optical switches according to claim 1.